

REMARKS

Claims 1-15 are pending of which claim 1, 3, 5, 7, 10, and 13 are independent. In this Amendment, claims 1-15 have been amended to clarify an aspect of the invention. Support can be found in, for example, page 12, lines 4-10 and page 33, line 2-page 34, line 4 of the written description. Care has been exercised not to introduce new matter.

Rejection under 35 U.S.C. § 112, first paragraph

Claims 5-6, and 13-15 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

In response, preambles in claims 5 and 13 have been changed to “A product comprising a recording medium having a computer program for causing a processing unit to perform steps of,” and preambles of claim 6 and 14-15 have been changed to “The product comprising a recording medium having a computer program.” The written description on page 12, lines 4-10 discloses the “recording medium” and the “computer program,” and FIG. 1 discloses the “signal processing unit” which can execute the claimed steps as instructed by the computer program. Therefore, it is respectfully submitted that the rejection is traversed since the disclosure enables one skilled in the art to make or use the invention.

Rejections of Claims Under 35 U.S.C. § 103

Claims 1, 3, and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lim (U.S. Patent No. 5,588,027, hereinafter “Lim”) in view of Shiino et al. (U.S. Patent No. 5,751,776, hereinafter “Shiino”) and further in view of Galperin et al. (U.S. Publication No. 2004/0008802, hereinafter “Galperin”). Claims 2, 4, and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lim in view of Shiino as applied to claims 1, 3, and 5, and in further view of Huttunen (U.S. Patent No. 7,016,434, hereinafter “Huttunen”). Claims 7, 8, 10,

11, 13, and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mody et al. (U.S. Publication No. 2002/0181509, hereinafter “Mody”) in view of Shiino. Claims 9, 12, and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mody in view of Shiino as applied to claims 7, 10, and 13, and in further view of Huttunen. The rejections are respectfully traversed.

Amended claim 1, in pertinent part, recites as follows:

“a correlation processor which performs, in a training signal interval, a correlation processing between the received signal which has been inputted and the training signal;

a phase error estimator which estimates a phase error of the received signal, which has been inputted, in the training signal interval, and in parallel with the processing in the correlation processor; and

a phase error compensator which estimates, at the end of the training signal interval, response characteristic of the received signal, which has been inputted, to the training signal by compensating for a result of the correlation processing based on the estimated phase error.”

As disclosed in page 33, lines 2-24 of the written description, during the interval of the training signal 302, the correlation processing and the estimation of the error between the baseband received signals 300 and the training signal 302 are performed by the initial value computation unit 10 and the phase error estimating unit 12 at the same time. When the interval of the training signal 302 ends, the phase error compensating unit 46 generates the initial weighting coefficients 310 by compensating for the correlation values 302 outputted from the initial value computation units 10 using the phase error signal 304 outputted from the phase error estimating unit 12.

The proposed combination of Lim, Shiino, Galperin, Huttunen and Mody fails to disclose the limitations of claim 1.

As admitted by the Examiner, Lim fails to disclose “the phase error compensator” and the simultaneous operations of the “phase error estimator” and “the correlation processor.”

Turning to Shiino, compensation for the phase of received signal by the rotating unit 5 cannot correspond to the “compensating for a result of the correlation processing” of claim 1, since phase of the received signal is not related to the correlation processing. This incorrectness of the corresponding can be known by the fact that the compensation result by the rotating unit 5 is inputted to the correlation unit 4 and used for the correlation processing. Moreover, the transmission channel estimating unit 6 and the phase rotating unit 5, on which the Examiner relied to disclose “the phase error compensator,” estimates the transmission channel and compensates for the phase of received signal (S12) before correlation process is performed (S13). (See FIG. 2 and column 3, lines 46-67) In contrast, in subject matter of claim 1, the operation of the “phase error compensator”, “estimating response characteristic” is performed after the “correlation processing” by the correlation processor.

Galperin, which was cited for the simultaneous operation of the correlation processor and phase error estimator, Huttenen, which was cited for detecting a training sequence of a received signal, and Mody, which was cited for the receiver, fail to cure deficiencies of Lim and Shiino.

Accordingly, as each and every limitation must be disclosed or suggested by the cited prior art references in order to establish a *prima facie* case of obviousness (*see*, M.P.E.P. § 2143.03) and for at least the foregoing reasons the proposed combination of Lim, Shiino, Galperin, Huttunen and Mody fails to do so, it is respectfully submitted that claim 1 and claims dependent thereupon are patentable over the combination of Lim, Shiino, Galperin, Huttunen and Mody.

Independent claims 3, 5, 7, 10 and 13 recite the same limitations as claim 1. Therefore, claims 3, 5, 7, 10 and 13 and claims dependent thereupon are patentable over the cited prior for the same reasons as claim 1.

Conclusion

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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